

## Effect of SAA Pretreatment on Temperature of Enzymatic Hydrolysis Using Lignocellulosic Biomass

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Lignocellulosic biomass has their nature structural and compositional factors that drop the enzymatic digestibility by hindering access of enzyme. The goal of any pretreatment technology is to alter or remove structural and compositional impediments to enzymatic hydrolysis in order to promote the rate of hydrolysis and increase yield of fermentable sugars. Soaking in Aqueous Ammonia (SAA) is the simple and low-cost operation thus, it was adopted as pretreatment method. In lignocellulosic biomass, there is biomass which has characteristics of cellulosic biomass and soft structure like rice straw. In this study, rice straw, corn stover, miscanthus sinensis and empty fruit bunch (EFB) were chosen as substrates and were pretreated in 15% aqueous ammonia for 12 h at 60 °C. The enzymatic hydrolysis was performed at 30, 40 and 50 °C to investigate glucose conversion and initial production rate of fermentable sugars according to density of biomass. As a result, we took reasonable glucose yield of enzymatic hydrolysis in lower temperature conditions than its conventional hydrolysis.